IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of: Mikhail Laksin et al.	Customer No.: 13772
Application No.: 10/586,098	Confirmation No. 1736
Filed: January 14, 2005	Art Unit: 2853
For: HYBRID ENERGY CURABLE SOLVENT BASED LIQUID PRINTING INKS	Examiner: M.S. Shah

Mail Stop Reply Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REPLY BRIEF

Sir:

In response to the Examiner's Answer mailed April 21, 2011, Appellants hereby submit this Reply Brief.

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This Brief contains items under the following headings as required by MPEP §1208 (I) and 37 C.F.R. §41.37(c):

I. STATUS OF CLAIMS

Total Number of Claims in the Application is 20 of which:

Canceled Claims:	None
Pending Claims:	1-20
Withdrawn Claims:	None
Allowed Claims:	None
Objected Claims:	None
Rejected Claims:	1-20
Appealed Claims:	1-20

II. GROUNDS OF REJECTIONS TO BE REVIEWED ON APPEAL

Claims 1-20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ylitalo et al. (US 2003/0083396) in view of Knox (US 6,398,861).

Claims 1-20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ylitalo et al. (US 2003/0083396) in view of Tsuyoshi et al. (US 2004/0150712).

III. ARGUMENTS

1. Reply to Section (9) of the Examiner's Answer.

To the extent that the Grounds of Rejection set forth in the Examiner's Answer are similar to those set forth in the Final Office Action mailed August 19, 2010, and the Advisory Action mailed December 6, 2010, Appellants maintain their arguments.

2. Reply to Section (10) of the Examiner's Answer.

A. The Rejection over Ylitalo et al. in view of Knox

It is respectfully submitted that Ylitalo et al. does not teach or suggest an energy curable printing ink including a solvent as defined in the claims currently under appeal.

The Examiner relies on Ylitalo et al.'s recitation, "*For radiation curable ink compositions, the solvent component is desirably absent. However, a small amount may be desirable under certain circumstances*." [**emphasis added**]. See paragraph [0080]. Ylitalo et al. is silent as to what these "certain circumstances" are for a solvent. The Examiner asserts that "the reference does not have to reveal what those circumstances are; disclosing in the specification at one time is sufficient evidence". In the Examiner's Answer, however, the Examiner relies upon Examples 51-54 of Ylitalo et al. to support his findings that Ylitalo et al. discloses a solvent based ink jet ink.

While Examples 51-54 of Ylitalo et al. may describe a solvent, Examples 51-54 certainly do not teach or suggest an energy curable solvent based printing ink. Specifically, Examples 51 and 52 in Ylitalo et al. describe the "Preparation of Aqueous Ink Jet Inks" and Examples 53 and 54 describe the "Preparation of Solvent Based Ink Jet Inks". See paragraphs [0295-0300]. On the other hand, at least Examples 1-39 in Ylitalo et al. describe the "Preparation of Radiation

Curable Ink Jet Inks". Example 49 in Ylitalo et al. describes the "Preparation of a Cationically Photocurable Black Ink Jet Ink". The fact that the titles provided for Examples 51-54 do not expressly recite energy curable inks as recited in the titles for Examples 1-39 and 49 is clear evidence that Examples 51-54 do not describe energy curable printing inks. Therefore, one of ordinary skill in the art would not conclude that Examples 51-54 in Ylitalo et al. teach or suggest energy curable solvent based printing inks.

In addition, at least Examples 51-52 of Ylitalo et al. describe an aqueous ink jet ink prepared by combining water, diethylene glycol and magenta millbase. Given these components, Appellants submit that the ink clearly does not contain an energy curable component. Therefore, it is improper for the Examiner to conclude that Ylitalo et al. teaches or suggests an energy curable printing ink comprising a solvent.

Next, the Examiner alleges that the primary reference of Ylitalo et al. discloses elements (ii), (iii) and (iv). See page 9 of the Examiner's Answer. The Examiner asserts, "It does not preclude the addition of another element, nor does it teach that adding an extra element would give a bad result or any disadvantages. So it would have been obvious to find the missing element and combine it with the primary reference to achieve a better result."

Appellants respectfully disagree with the Examiner's rationale that a conclusively "better result" can be achieved by adding an extra element (*i.e.,* a solvent-soluble resin) which admittedly is missing in the primary reference of Ylitalo et al. Specifically, Ylitalo et al.'s energy curable printing inks as at least described in Examples 1-39 preferably do not include solvents. Hence, the Examiner has not clearly articulated why one of ordinary skill in the art would choose to add a solvent-soluble resin to Ylitalo et al.'s curable printing ink that preferably does not include solvents, and obtain predictable results with a reasonable expectation of

success. Thus, Appellants submit that the Examiner's speculation of "better results" is insufficient to maintain the *prima facie* case of obviousness.

Next, the Examiner alleges on page 10 of the Examiner's Answer that Knox's binder can be a solvent soluble resin in inks which improves application properties.

Appellants respectfully disagree with the Examiner's characterization of the solvent soluble resin found in the paragraph disclosed on column 6, lines 48-67 of Knox. When this paragraph is read in its entirety, the phrase, "application properties" on lines 65-66 describes the liquid organic binders such as plasticizers. Therefore, the solvent soluble resin disclosed on lines 52-54, mentioned much earlier in the same paragraph, is not described as affecting the "application properties". In addition, the "application properties" refers to the structural rigidity of the pigment particles and therefore, are not suggestive of any improvements to the overall ink. See, for example, the paragraph bridging columns 6 and 7.

It is further submitted that Knox's preferred embodiment describes a binder material that is non-resinous, further distinguishing this teaching. See Column 7, lines 6-7.

In light of the facts mentioned above, it would not have been obvious to one of ordinary skill in the art to combine Knox's teachings of a soluble solvent resin, which is non-preferred and also is not described as having improved application properties, with the primary reference of Ylitalo et al.

On a separate matter, Appellants submit there is no reason for Ylitalo et al.'s printing ink to simultaneously comprise an optional energy curable material and an optional solvent in light of the examples, and then be modified to further include a solvent-soluble resin.

Ylitalo et al.'s examples suggest that a radiation curable ink jet ink includes a photoinitiator and preferably does not include a solvent. See Examples 1-39. Hence, there

would be no reason to modify Ylitalo et al.'s radiation curable ink jet ink to include a solvent soluble resin when no solvent preferably exists. As mentioned above, *supra,* Knox's solvent soluble resin cannot be interpreted as improving application properties when read in its entirety. For at least these reasons, it would not have been *prima facie* obvious to modify Ylitalo et al. with Knox.

Further, it is submitted that the Examiner's Answer is silent regarding Appellants' request for a document or Examiner affidavit supporting the Examiner's assertion that it is well known that a solvent soluble resin can be used in ink compositions and that it does not matter whether the ink is energy curable or a regular ink. See page 9 of the Appeal Brief.

In view of the Examiner's determination, Appellants kindly solicit the Examiner to either produce a document to support the conclusion or issue an Examiner affidavit.

For at least these reasons, Appellants submit that the combination of Ylitalo et al. and Knox does not render the currently appealed claims *prima facie* obvious.

B. The Rejection over Ylitalo et al. in view of Tsuyoshi et al.

The discussion concerning Ylitalo et al., *supra*, applies with equal force to this rejection.

Next, the Examiner relies on Tsuyoshi et al.'s description of a binder to conclude that a solvent soluble resin exists. However, Tsuyoshi et al. is silent regarding a solvent soluble resin. See, for example, the Abstract and paragraph [0039]. Therefore, the Appellants contend that further evidence regarding the existence of a solvent soluble resin in view of the binder would be necessary before a *prima facie* case of obviousness can be established.

Also, the Examiner asserts that Tsuyoshi et al.'s pigment based ink composition with a binder material has good binding characteristics to the medium, which improves the storage stability of the printed image.

Appellants submit Tsuyoshi et al. fails to teach or suggest that a binder material has good binding characteristics to the medium. Appellants kindly solicit the Examiner to either produce a document to support this conclusion or issue an Examiner affidavit.

Further, Appellants contend that the Examiner does not address the questions of why one of ordinary skill in the art would incorporate Tsuyoshi et al.'s solvent soluble resin in the radiation curable composition of Ylitalo et al. which preferably teaches the absence of a solvent.

For at least these reasons, Appellants submit that the combination of Ylitalo et al. and Tsuyoshi et al. does not render the currently appealed claims *prima facie* obvious.

IV. CONCLUSION

For the foregoing reasons and those provided in the Brief submitted February 9, 2011, Appellants respectfully request this Honorable Board to reverse the decision of the Examiner.

Appellants believe that no fees are due with this Reply Brief. However, if any fees are due, the Patent and Trademark Office is hereby expressly authorized to charge any fees required to complete the filing of this Reply Brief to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911.

Dated: June 20, 2011

Respectfully Submitted,

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